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09/505,459	02/11/2000	Tomomi Oshiba	KOT-0008	6309

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DOTE, JANIS L	
ART UNIT	**PAPER NUMBER**
1756	13

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/505,459	OSHIBA et al
	Examiner	Group Art Unit
	J. DOTE	1756

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

P riod for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If th period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

☒ Responsive to communication(s) filed on 7/29/02.

☐ This action is **FINAL.**

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle,* 1935 C.D. 1 1; 453 O.G. 213.

Disposition of Claims

☒ Claim(s) 1 - 5, 8 - 17 is/are pending in the application.

Of the above claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1 - 5, 8 - 17 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claim(s) _____ are subject to restriction or election requirement

Application Papers

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner

☒ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Pri rity under 35 U.S.C. § 119 (a)-(d)

☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119 (a)-(d).

☒ All ☐ Some* ☐ None of the:

☒ Certified copies of the priority documents have been received.

☐ Certified copies of the priority documents have been received in Application No. _____.

☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a))

*Certified copies not received: _____.

Attachment(s)

☐ Information Disclosure Stat ment(s), PTO-1449, Paper No(s). _____

☒ Notice of Reference(s) Cited, PTO-892

☐ Notice of Draftsperson's Pat nt Drawing R vi w, PTO-948

☐ Int rview Summary, PTO-413

☐ N tice of Informal Pat nt Application, PTO-152

☐ Oth r _____

Office Acti n Summary

1. The examiner acknowledges the amendments to claims 1, 11, and 12, and the addition of claims 14-17 filed in Paper No. 12 on Jul. 29, 2002. Claims 1-5 and 8-17 are pending.

2. The replacement paragraph at page 8, line 12, of the specification, filed in Paper No. 12, changes the definition of isolation ratio from the ratio (% by number) of "the number of synchronous light emission particles to the sum of the number of synchronous light emission particles and non-synchronous light emission particles" to -- the number of non-synchronous light emission particles to the sum of the number of synchronous light emission particles and non-synchronous light emission particles --. Applicants in Paper No. 12, page 10, lines 12-13, states that the isolation ratio now disclosed in the replacement paragraph is consistent with the description of its measurement in the paragraph bridging pages 35 and 36 of the specification. However, applicants, in the amendment filed on Jun. 18. 2001, Paper No. 5, page 6, lines 13-18, stated that the isolation ratio is "clearly defined" by the former definition.

Applicants in Paper No. 12 did not retract their statement in Paper No. 5. Applicants should remove all ambiguity in the record to the definition of the term "isolation ratio."

3. The objections to the specification under 35 U.S.C. 132 set forth in the Office action mailed Apr. 8, 2002, Paper No. 11, paragraph 2, have been withdrawn in response the replacement Table 1 at pages 28-31 of the specification filed in Paper No. 12.

The rejection of claim 11 under 35 U.S.C. 112, second paragraph, set forth in Paper No. 11, paragraph 5, has been withdrawn in response to the amendment to claim 11.

The rejection of claims 12 and 13 under 35 U.S.C. 112, first paragraph, set forth in Paper No. 11, paragraph 7, has been withdrawn in response to the amendment to claim 12.

4. The disclosure is objected to because of the following informalities:

1) Table 2 at page 38 reports that inventive Toner 5 has an isolation ratio for the element Cr. However, Toner 5 is not made from any compounds containing Cr. Toner 5 is made by melt mixing a binder resin with a copper phthalocyanine pigment and a charge controlling zinc salicylic acid complex. See Table 1 at page 29. What is the source of the Cr isolation ratio?

2) Table 2 at page 38 reports that inventive Toner 9 has an isolation ratio for the element Cu. However, Toner 9 is not made from any compounds containing Cu. See Table 1 at page 30. What is the source of the Cu isolation ratio?

3) Table 2 at page 38 reports that inventive Toners 10 and 11 have isolation ratios for the element Zn. However, Toners 10 and 11 are not made from any compounds containing Zn. Toners 10 and 11 are made by melt mixing a binder resin with a quinacridone magenta pigment and a charge controlling chromium salicylic acid complex. See Table 1 at page 30. What is the source of the Zn isolation ratios?

4) Table 2 at page 38 reports that inventive Toners 12 and 13 have isolation ratios for the element Cr. However, Toners 12 and 13 are not made from any compounds containing Cr. Toners 12 and 13 are made by melt mixing a binder resin with a quinacridone magenta pigment and a charge controlling iron azo complex. See Table 1 at page 30. What is the source of the Cr isolation ratios?

5) The specification in the replacement paragraph at page 8, line 12, and in the paragraph bridging pages 35 and 36, defines the isolation ratio as a percentage of the number of non-synchronous light emission particles divided by sum of the number of non-synchronous light emission particles and the number of synchronous light emission particles. The synchronous light emission particle is defined as a particle that "emits light caused by the specified element with light caused by carbon atom" (emphasis added). The non-synchronous light is defined as a particle that "emits light caused by the specified element

without synchronous light emission caused by carbon atom." Because this language is not clear on its face, the specification must be consulted.

The instant specification in Table 2 reports that the toners in examples 6-8 have isolation ratios of 8.6, 5.7, and 2.7, respectively, for the element Cu. The specification at page 27 discloses that the toners in examples 6-8 are prepared by a melt-kneading a mixture comprising a binder resin and Cu-phthalocyanine. It appears that the element Cu is in the form of Cu-phthalocyanine. Thus, there are no particles containing only the element Cu, but particles containing the element Cu in the form of Cu-phthalocyanine (e.g., particles containing only Cu-phthalocyanine and toner particles comprising Cu-phthalocyanine and a binder resin). Based on the above discussed teachings in the specification, the particles containing only Cu-phthalocyanine "emit light caused by the element Cu with light caused by the carbon atoms" present in Cu-phthalocyanine. The toner particles emit light caused by the element Cu with light caused by the carbon atoms present in Cu-phthalocyanine and in the binder resin. There would be no particles present that emit "light caused by the specified element without synchronous light emission caused by carbon atom." Thus, the isolation ratios for the toners in examples 6-8 would be zero, which is not the value reported in instant Table 2. Accordingly, it is not clear how

the isolation ratios of the element Cu in examples 6-8, let alone of any element which is part of an organic compound, are determined from the definition of the isolation ratio disclosed in the instant specification.

Appropriate correction is required.

5. Applicants are advised that should claim 3 be found allowable, claim 12 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 1-5 and 8-17 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one

skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

(1) Instant claim 1 recites a toner comprising not less than 0.1% by weight of an element, where the toner has an isolation ratio of an element of not more than 10% by number. Claim 1 recites that the isolation ratio is determined by particle emission and defines the isolation ratio as "100 times the number of particles exhibiting emission from the element but not exhibiting emission from carbon divided by the sum of the number of particles exhibiting emission from the element but not exhibiting emission from carbon and the number of particles exhibiting emission from the element and exhibiting emission from carbon." Applicants in Paper No. 11, the paragraph bridging pages 11 and 12, assert that the "element" having an isolation ratio of not more than 10% by number recited in the instant claims may be in other particles besides the toner particles, which is supported at page 7, lines 11-15, of the specification. Applicants state that they "agree with the Examiner's interpretation that 'the element is part of the toner particles' but disagree with the interpretation that the element is exclusively found within the colored resin particles of the toner." Based on applicants' interpretation, the element recited in the instant claims includes not only internal components (those components used in the formation of toner particles) but

includes external additives that are added to the already made toner particles.

The originally filed specification does not provide an adequate written description of the element being an external additive as alleged by applicants. The originally filed specification discloses that the colorant, which includes magnetic powder, is one of ingredients mixed with the binder resin to make the toner particles. In other words, the colorant is an internal component. See the specification, page 9, line 4, to page 10, line 24; page 12, line 8, to page 13, line 3; and page 19, line 17, to page 20, lines 4. The originally filed specification at page 10, lines 21-22, and page 16, lines 20-21, discloses that the charge controlling agent is also an internal element. The specification in the paragraph bridging pages 11 and 12, discloses that the isolation ratio of the element can be controlled by "changing the conditions of the crushing or classification." These steps are among the steps required to make toner particles. The originally filed specification at page 19, lines 5-10, discloses that the isolation ratio of the element can be controlled in the polymerization methods to form toner particles by "controlling the adding order and adding time of the various raw materials, the polymerization condition of the monomer, the aggregation condition of the polymerized particles and the washing conditions after reaction." Again, these steps

are among the steps needed to make of toner particles. Inventive toners 6-8 of the specification comprise colored toner particles, which comprise a Cu-phthalocyanine pigment, and externally added titanium oxide particles. See Table 1 at page 29. The toner particles are obtained by melt-kneading a mixture comprising a binder resin and the Cu-phthalocyanine pigment. Titanium is a Group 4B element of the fourth periodic of the long periodic table, which the specification, at page 3, line 23, discloses can be an element. However, Table 2 at page 38 of the specification reports isolated ratios for the element Cu in Toners 6-8, not for the element Ti.

The disclosure at page 7, lines 11-15, in the originally filed specification, states that "the isolation ratio of the specified element is the ratio (% by number) of the number of particles containing the specified element other than the colored particles, for example, particles of magnetic substance and the charge controlling agent, to the whole number of particles of the toner." In other words, the isolation ratio at page 7 is defined as the number of particles containing the element divided by the total number of particles containing the element in the toner (i.e., number of the particles containing the element that are not part of the toner particles plus the number of particles containing the element in the toner particles). Based on the disclosure in the originally filed specification, the element

disclosed at page 7 and recited in the instant claims is an internal component of the toner particles. The isolation ratio is the number of particles containing the element that is not incorporated in the toner particles during the formation of the toner particles to the total number of particles containing the element in the toner (i.e., toner particles and particles containing the element that is not incorporated in the toner particles during the formation of the toner particles). Accordingly, in view of the originally filed specification, the "element" recited in the instant claims refers to an internal additive of the toner particles, not to an external additive added to toner particles as alleged by applicants.

(2) Instant claim 1 recites that the isolation ratio of the element is determined by particle emission. The originally filed specification does not provide an adequate written description of the determination of the isolation ratio that is recited in the instant claims. The originally filed specification at page 7, line 18, to page 19, line 2, discloses that the isolation ratio is determined by separating the toner into particles and introducing the particles into a He microwave plasma which is subjected to emission spectrographic analysis. "Plural spectroscopes are used so that carbon and the specified element contained in an amount not less than 0.1% by weight can be detected by fluorescent X-ray analysis. Then the results of the

spectrographic analysis are checked so as to classify the particles to synchronous light emission particles and non-synchronous light emission particles." The specification, in the paragraph bridging pages 35 and 36, discloses that the isolation ratio is determined by using a Particle Analyzer, manufactured by Yokogawa Denki Co., Ltd. The specification also discloses the conditions under which the Analyzer is operated. The specification discloses that "whole particles measured under the following conditions were plotted on a graph in which the horizontal axis showed the light emission voltage caused by carbon and the vertical axis showed the light emission voltage caused by the specified element." To summarize, the originally filed specification discloses that isolation ratio is determined by measuring the light emission voltage caused by carbon and the element of the particles present in the toner with a fluorescent X-ray analysis. There is no disclosure of determining the isolation ratio by "particle emission" as broadly recited in the instant claims.

8. Claims 1-5 and 8-17 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Instant claim 1 recites that the isolation ratio of the element is determined by particle emission and defines the isolation ratio as "100 times the number of particles exhibiting emission from the element but not exhibiting emission from carbon divided by he sum of the number of particles exhibiting emission from the element but not exhibiting emission from carbon and the number of particles exhibiting emission from the element and exhibiting emission from carbon." The element can be in the form of a pigment, such as Cu-phthalocyanine. The element can also be in the form of a charge controlling agent, such as a chromium azo complex, a chromium salicylic acid complex, zinc salicylic acid, or a molybdenum quaternary ammonium complex. See the specification, the paragraph bridging pages 5 and 6, and instant claims 14, 15, and 17. However, for the reasons discussed in paragraph 4, item (5), supra, the specification does not provide an adequate disclosure of how to determine the isolation ratio of an element that is in the form of an organic compound, such as Cu-phthalocyanine. Accordingly, it would require undue experimentation for one of ordinary skill in the art to determine the isolation ratio as defined in the instant claims for elements that are in the form of organic compounds, such as Cu-phthalocyanine.

9. Claims 1-4, 8-12, 14, and 15 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over US 5,376,493 (Kobayashi), as evidenced by ACS File Reg. No. 147-14-8.

The claims are rejected for the reasons set forth in Paper No. 11, paragraph 11, which are incorporated herein by reference.

10. Claims 1-4, 8-12, and 14 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over US 5,5,856,055 (Ugai).

The claims are rejected for the reasons set forth in Paper No. 11, paragraph 12, which are incorporated herein by reference.

11. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ugai.

The claims are rejected for the reasons set forth in Paper No. 11, paragraph 13, which are incorporated herein by reference.

12. Claims 1-3, 8-12, 14, and 17 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over US 5,645,967 (Sato).

The claims are rejected for the reasons set forth in Paper No. 11, paragraph 14, which are incorporated herein by reference.

13. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sato combined with US 5,037,715 (Hagiwara).

The claims are rejected for the reasons set forth in Paper No. 11, paragraph 15, which are incorporated herein by reference.

14. Claims 1-3, 5, 8-13, 14, and 17 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over US 6,238,836 B1 (Nakamura).

The claims are rejected for the reasons set forth in Paper No. 11, paragraph 17, which are incorporated herein by reference.

15. Applicants' arguments filed in Paper No. 12 with respect to the rejections over Kobayashi, Ugai, or Sato set forth in paragraphs 9-14 above have been fully considered but they are not persuasive.

Applicants assert that the prior art neither anticipates nor renders obvious the instant claimed toners because the prior art toners do not have the isolation ratio recited in the instant claims, as shown by the Rule 132 declaration executed by Hiroshi Yamazaki on Jul. 4, 2002, filed on Jul. 29, 2002, attached to Paper No. 12.

Applicants' arguments are not persuasive. The showing in the declaration is insufficient to show that the prior art toners do not have an isolation ratio as recited in the instant claims.

Declarant states that the isolation ratios for the toners K, Q, R, and S, which are said to have been prepared in accordance with the teachings of the prior art, were determined in the same way as disclosed on page 35 of the instant specification. The declaration reports that the isolation ratios for said toners are outside the range of not less than 10% recited in instant claim 1. However, the toners K, Q, R, S, and N comprise the elements Cu, Fe, Cr and Mo, respectively, in the form of organic compounds, such as Cu-phthalocyanine, Ugai's azo iron complex (1), a chromium salicylic complex, and a molybdenum-containing quaternary ammonium compound. Thus, the toners do not comprise particles containing only the elements copper, iron, chromium, or molybdenum. For the reasons discussed in paragraph 4, item (5), above, the isolation ratios as defined by the instant specification and instant claim 1 for the toners K, Q, R, S, and N would appear to be zero, not the values reported in the declaration. The instant specification does not provide an adequate disclosure of determining the isolation ratio as defined in instant specification and in instant claim 1 for an element in the form of an organic compound.

(Note that the results for examples 5 and 9-13 of the specification reported in the declaration are not probative because the compositions of those examples are not known. See paragraph 4, items (1) through (4) above.)

Accordingly, the declaration does not show that the prior art toners do not have the isolation ratio recited in the instant claims and the rejections stand.

16. Claims 1-4, 8-12, 14, and 16 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over US 5,672,454 (Sasaki'454), as evidenced by ACS File Registry No. 1317-61-9.

Sasaki'454 discloses a toner comprising encapsulated toner particles. The toner particles comprise cores comprising a binder resin and triiron tetraoxide magnetic powder covered with a polymeric shell. See example 1 at cols. 14-15. Triiron tetraoxide is also known as magnetite. See ACS File Registry No. 1317-61-9. The triiron tetraoxide powder is present in the toner particles in an amount of about 42.1 parts by weight per 100 parts by weight of particles. The amount of Fe in the toner particles is about 30 wt% based on the total weight of the toner particles (i.e., (42.1 parts by weight/100 parts by weight) × ((3 × 55.85 atomic weight of Fe)/(231.54 formula weight of triiron tetraoxide)) × 100). The amount of triiron tetraoxide is determined from the information provided in example 1. The amount of about 30 wt% is within the range of "not less than 0.1 wt%" recited in instant claim 1. The toner can be used with a carrier. Col. 4, lines 38-41, and col. 13, lines 3-4. The

toner in example 1 is obtained by an emulsion polymerization method as recited in instant claim 8. Sasaki'454 further discloses that said toner can be used in a process comprising the steps recited in instant claim 11. See col. 13, lines 12-33, and col. 18, lines 20-30.

Sasaki'454 does not disclose that its toner comprises iron in an isolation ratio as recited in the instant claims. However, Sasaki'454 discloses that there is no magnetic powder present on the surface of its toner particles as determined by TEM. Col. 15, lines 21-22, and Fig. 2. Because Sasaki'454's toner meets the compositional limitations of the instant claims and has no magnetic powder (loose magnetic powder) present on the surface of the toner particles, it is reasonable to presume that Sasaki'454's toner comprises the element iron in an isolation ratio as recited in the instant claims. The burden is on applicants to prove otherwise. In re Fitzgerald, 205 USPQ 594 (CCPA 1980).

17. Claims 1-4, 8-12, 14, and 15 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over US 5,763,130 (Sasaki'130).

Sasaki'130 discloses a toner comprising encapsulated toner particles. The toner particles comprise cores comprising a binder resin and Cu-phthalocyanine covered with an amorphous

polyester shell. See example 2 at col. 19. Cu-phthalocyanine has a molecular weight of 576.08. Cu-phthalocyanine is present in the toner in an amount of 0.98 wt%. The amount of copper present in the toner is about 0.11 wt% based on the total weight of the toner (i.e., (0.98 wt% × (63.54 atomic weight of Cu)/(576 molecular weight of Cu-phthalocyanine)). The amount of Cu-phthalocyanine is determined from the information provided in example 2. The amount of 0.11 wt% is within the range of "not less than 0.1 wt%" recited in instant claim 1. The toner can be used with a carrier. Col. 23, lines 51-56. The toner in example 2 is obtained by an emulsion polymerization method as recited in instant claim 8. Sasaki'130 further discloses that said toner can be used in a process comprising the steps recited in instant claim 11. See col. 1, lines 20-32, and col. 24, lines 26-33.

Sasaki'130 does not disclose that its toner comprises copper in an isolation ratio as recited in the instant claims. The instant specification discloses that toners that comprise an element as recited in instant claim 1 in an isolation ratio as recited in the instant claims, have stable chargeability after 10,000 copies, and provide toner images without fog even after 100,000 copies. See Table 2 at page 38, and the accompanying text. Sasaki'130's toner of example 2 exhibits stable chargeability after 50,000 copies, and provides toner images free

from fog after 50,000 copies. See example 2 in Table 3 at col. 24. Because Sasaki'130's toner expressly meets the compositional limitations of the instant claims, but for the isolation ratio recited in the instant claims, and has the properties sought by applicants, it is reasonable to presume that Sasaki'130 toner comprises the element copper in an isolation ratio as recited in the instant claims. The burden is on applicants to prove otherwise. Fitzgerald, supra.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janis L. Dote whose telephone number is (703) 308-3625. The examiner can normally be reached Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Mark Huff, can be reached on (703) 308-2464. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9311 (Rightfax) for after final faxes, and (703) 872-9310 for other official faxes.

Any inquiry of papers not received regarding this communication or earlier communications, or of a general nature or relating to the status of this application or proceeding should be directed should be directed to the Customer Service Center of Technology Center 1700 whose telephone number is (703) 306-5665.

Janis L. Dote

JANIS L. DOTE
PRIMARY EXAMINER
GROUP ~~1500~~ 1700

JLD
October 5, 2002